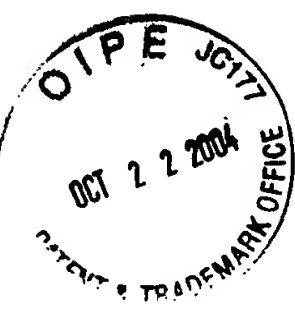


AF/2835
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PATENT
ATTORNEY DOCKET NO.: 040894-5653

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Appellant: Satoshi NAKAMURA)	
)	
Application No.: 09/818,686)	Appeal No.: 2004-1412
)	
Filed: March 28, 2001)	Administrative Patent Judges:
)	Kimlin, Warren and Owens
Appeal Brief Filed: July 14, 2003)	
)	MAIL STOP
Reply Brief Filed: October 20, 2003)	APPEAL BRIEF-PATENTS
)	
For: PRINTED WIRING BOARD HAVING HEAT)	
RADIATING MEANS AND METHOD OF)	
MANUFACTURING THE SAME)	

MAIL STOP APPEAL BRIEF-PATENTS
BOARD OF PATENT APPEALS AND INTERFERENCES
UNITED STATES PATENT AND TRADEMARK OFFICE
P.O. BOX 1450
ALEXANDRIA, VIRGINIA 22313-1450

REQUEST FOR REHEARING IN RESPONSE TO
DECISION ON APPEAL UNDER 37 C.F.R. § 1.196(b)

In response to the Decision on Appeal mailed August 24, 2004, the period for response to which extends through October 25, 2004 (October 24 being a Sunday), Appellant respectfully submits this Request for Rehearing requesting reconsideration of claim 7 based on the following remarks.

REMARKS**Summary of Decision on Appeal**

The Board of Patent Appeals and Interferences (BPAI) is thanked for reversing each of the three grounds of rejection set forth in the Final Office Action mailed January 15, 2003. In reversing the rejection, the BPAI considered the Appeal Brief filed on July 14, 2003 and Reply Brief filed on October 20, 2003 as well as the translation of *Kamioka* filed on March 19, 2003. The BPAI disagrees with the Examiner that one of ordinary skill in this art would have expected silicon gum insulating sheet 12 of *Kamioka* to dissipate heat on the basis of the disclosure that “elements 12 exclude presence of air.” Accordingly, the BPAI takes the position that the Examiner’s reliance on *Kamioka* is misplaced because *Christopher* and *Kamioka* cannot be combined in the manner suggested by the Examiner.

The BPAI, however, enters a new ground of rejection under 37 CFR § 1.196(b). Specifically, claims 1, 6, 7, 10-13 and 15-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combined teachings of *Christopher* and *Miyagi*. The BPAI appears to allege that *Christopher* discloses all the limitations of appealed claims 1, 10-12, 15 and 20-22 including independent claims 1 and 15 except for dimensions for the first and second heat radiating patterns and the heat radiating plate, but determines that “*prima facie*, one of ordinary skill in this art armed with the common knowledge that the area of a metal layer is a result effective variable with respect to heat radiation, as seen, for example, from the disclosure in *Christopher* with respect to metal plate 278 (col. 4, lines 61-64), would have found in the absence of a disclosure of dimensions for the elements of the thermally conductive path in the reference, the reasonable suggestion that the workable or optimum range of the area of each of

the metal elements of the thermally conductive path can be determined for the desired amount of heat radiation,” (see last paragraph of page 6), and “[a]ccordingly, *prima facie*, one of ordinary skill in the art routinely following the teachings of Christopher would have reasonably arrived at the relative areas of different metal elements of a printed wiring board as required by the appealed claims without recourse to appellant’s specification.” (see second paragraph of page 7).

Further, with respect to appealed claims 6, 7, 13 and 19, the BPAI alleges that “*prima facie*, one of ordinary skill in this art routinely following the combined teachings of Christopher and Miyagi would have reasonably arrived at printed wiring boards that have fin heat radiating means as required by appealed claims 6, 7, 13 and 19, without recourse to appellant’s specification.” (see second paragraph of page 8).

Furthermore, with respect to appealed claims 16-18, the BPAI alleges that “*prima facie*, one of ordinary skill in this art routinely following the combined teachings of Christopher and Miyagi would have reasonably arrived at printed wiring boards that have a plated layer as a heat radiating element of the thermally conductive path which contains nickle or tin as required by appealed claims 16-18 without recourse to appellant’s specification.” (see second paragraph of page 9).

As noted above, Appellant requests rehearing regarding the rejection of claim 7.

Summary of Appellant’s Arguments

Appellant respectfully submits that *Christopher* and *Miyagi*, whether taken separately or in combination, do not teach or suggest at least the features of claim 7. Appellant will address

claims 1, 6, 7, 10-12, 14-18 and 20-22 with an appropriate amendment after the rehearing regarding claim 7.

Appellant's Arguments

Appellant respectfully submits that *Christopher* and *Miyagi*, whether taken singly or combined, do not teach or suggest the present invention of claim 7 including at least the feature of “said plurality of fins of said heat radiating means form a corrugated cross-section being uniformly shaped in such a way that a long-length of a belt-shaped hoop material is extruded and cut at prescribed length.”

The BPAI concedes at first paragraph on page 8 of Decision on Appeal that *Christopher* does not disclose a plurality of fins for heat radiation. To remedy this deficiency, the BPAI further relies on *Miyagi* to allegedly teach the heat radiating fins. However, Appellant respectfully disagrees that *Miyagi* teaches fins forming a corrugated cross-section. In contrast to the present invention where, as shown in FIG. 4 of the present invention for example, a plurality of fins 40' of the heat radiating means 4' are defined to have a corrugated cross section, *Miyagi* merely discloses a plurality of tooth-shaped heat radiating fins 7 as shown in FIG. 1 of *Miyagi*. That is, as shown in FIG. 4 of the present invention, the fins 40' are formed as a corrugated sheet having spaces defined in each fin whereas the tooth-shaped heat radiating fins 7 of *Miyagi* are solid. Appellant respectfully submits that *Miyagi* neither teaches nor suggests that the tooth-shaped heat radiating fins 7 may be modified to “have a corrugated cross-section,” as recited by dependent claim 7.

Appellant respectfully submits that, compared to the tooth-shaped fins as taught by *Miyagi*, the corrugated fins of the present invention has more adaptability to the required heat radiating amount because the corrugated fins is made of the belt-shape material that enables themselves to be extruded and cut at a prescribed length. Further, Appellant respectfully submits that, compared to the tooth-shaped fins as taught by *Miyagi*, the corrugated fins of the present invention are more flexible to make variety of the fins because the tooth-shaped fins require a mold design change in case of changing shapes of the fins. Moreover, Appellant respectfully submits that, compared to the tooth-shaped fins having the same contact surface area to the circuit board, the corrugated fins of the present invention are better in heat radiation because the corrugated shapes have more surface area.

Thus, for at least the reasons set forth above, Appellant respectfully asserts that the BPAI has not established a *prima facie* case of obviousness based on the combination of *Christopher* and *Miyagi*. MPEP § 2143.03 instructs that "[t]o establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 409 F.2d 981, 180 USPQ 580 (CCPA 1974)." Therefore, the new rejection of claim 7 is improper and should be withdrawn.

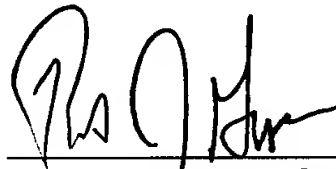
Conclusions

In view of the foregoing, Appellant respectfully requests reconsideration and the timely allowance of at least claim 7. If there are any other fees due in connection with the filing of this Amendment in response to Decision on Appeal, please charge the fees to our Deposit Account No. 50-0310.

Respectfully submitted,

MORGAN LEWIS & BOCKIUS LLP

By:



Robert J. Goodell

Reg. No. 41,040

Dated: October 22, 2004

CUSTOMER NO. 009629

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